

IN THE CLAIMS:

1-50 (cancelled).

51 (new). A method for producing electronic video signals representative of color images of a scene, comprising the steps of:

providing a luminance sensor and a color sensor having a color filter thereover, said color sensor having a two color checkerboard filter pattern;

providing a pellicle beamsplitter, which is also operative as an acousto-optical low-pass filter, and providing a motion picture film camera type of lens system that focuses light from said image, via said beamsplitter, onto said luminance sensor and said color sensor;

applying ultrasonic excitation to said pellicle to implement optical low pass pre-filtering of light from said image that is focused on said color sensor, said ultrasonic excitation being applied to said pellicle along diagonal directions with respect to vertical and horizontal reference directions of said color sensor to effect optical pre-filtering of the light focused on said color sensor; and

producing electronic video signals from outputs of said luminance sensor and said color sensor.

52 (new). The method as defined by claim 51, wherein said step of providing a color sensor with a two-color checkerboard filter pattern comprises providing a red-blue checkerboard filter pattern.

53 (new). The method as defined by claim 51, wherein said step of providing a color sensor with a two-color checkerboard filter pattern comprises providing a red-green checkerboard filter pattern.

54 (new). The method as defined by claim 51, further comprising the step of providing optical pre-filtering of light from said image that is focused on said color sensor.

55 (new). The method as defined by claim 12, wherein said step of providing optical pre-filtering comprises providing a grating in the path of light from said image that is focused on said color sensor.

56 (new). The method as defined by claim 55, wherein said step of providing a grating includes orienting lines of said grating on a diagonal with respect to vertical and horizontal reference directions of said color sensor.

57 (new). A method for producing electronic video signals representative of color images of a scene, comprising the steps of:

providing a luminance sensor and a color sensor having a color filter thereover, said color sensor having a two color checkerboard filter pattern;

providing a beamsplitter, and providing a motion picture film camera type of lens system that focuses light from said image, via said beamsplitter, onto said luminance sensor and said color sensor;

providing optical pre-filtering of light from said image that is focused on

said color sensor, said step of providing optical pre-filtering comprising providing a grating and orienting lines of said grating on a diagonal with respect to vertical and horizontal reference directions of said color sensor; and

producing electronic video signals from outputs of said luminance sensor and said color sensor.

58 (new). Apparatus for producing electronic video signals representative of color images of a scene, comprising:

a luminance sensor;

a color sensor having a color filter thereover;

a beamsplitter;

a film camera type of lens system, arranged to focus light from said image, via said beamsplitter, onto said luminance sensor and said color sensor;

an optical pre-filter for pre-filtering light from said image that is focused on said color sensor, said optical pre-filter comprising a grating with grating lines oriented on a diagonal with respect to vertical and horizontal reference directions of said color sensor; and

means for producing electronic video signals from outputs of said luminance sensor and said color sensor.

59 (new). A method for producing electronic video signals representative of color images of a scene, comprising the steps of:

providing a luminance sensor and a color sensor having a color filter thereover, said color filter comprising a two-color checkerboard filter pattern;

providing a pellicle beamsplitter, and providing a lens system that focuses light from said image, via said pellicle beamsplitter, onto said luminance sensor and said color sensor;

applying ultrasonic excitation to said pellicle beamsplitter along diagonal directions with respect to vertical and horizontal reference directions of said color sensor to effect optical pre-filtering of the light focused on said color sensor; and

producing electronic video signals from outputs of said luminance sensor and said color sensor.